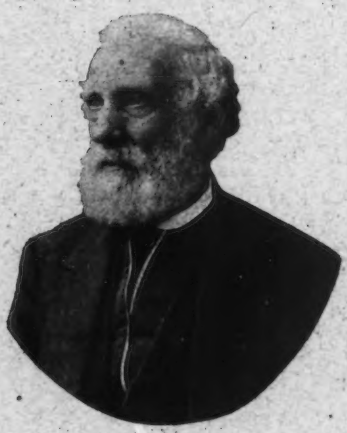
JUNE, 1913.

ENTOMOLOGICAL NEWS

Vol. XXIV. No. 6



Titian Ramsey Peale (1800-1885).

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7	1896	.50	25	5	5	5	5	15	5	5	5	10
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Miss Mary E. Murtfeldt.

(Portrait, Plate VIII.)

Mary Esther Murtfeldt died at her home in Kirkwood, Missouri, February 23rd last.

She was born in New York, and there, at an early age, she suffered the serious illness which left her with a slight paralysis, so that for all her after life she was restricted in her walking. Otherwise she was robust and her physical infirmity seemed only to intensify her mental powers.

With her family she early moved to Rockford, Illinois. Here in Rockford College she received the education that the schools could give. In 1869 she moved to St. Louis, where Miss Murtfeldt met Prof. C. V. Riley and on account of her extensive knowledge of botany became an invaluable associate worker to him. In 1871 the family moved to Kirkwood, a suburb of St. Louis, where she lived ever since.

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of entomology and was so broad that it reached all subjects of interest to cultivated people, was largely acquired by herself.

She was particularly interested in the life histories of the microlepidoptera and began writing on entomological subjects in 1870. From that time to her death she contributed many articles to scientific journals. In 1891 there appeared from her pen a book entitled "Outlines of Entomology," prepared for the use of farmers and horticulturists at the request of the Secretary of the State Board of Agriculture and the State Horticultural Society of Missouri.

She was associate editor of "Farm Progress," published in St. Louis; a Fellow of the American Association for the Advancement of Science and a member of the Academy of Sciences of St. Louis.

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Notes on Mosquitoes (Dipt.).

By HERMAN H. BREHME,

In charge of the Mosquito Extermination Work at the New Jersey Agricultural Experiment Station, New Brunswick, N. J.

The summer of 1912 was a normal one until the first part of August, when heavy showers set in, consequently favorable for prolific production of mosquitoes. Complaints were received from the southern part of the State and especially along the shores of Barnegat Bay. Upon investigation, the species most troublesome proved to be *Aedes sollicitans*. In the northern section it helped *Culex pipiens* along. *Sollicitans* was very rare in the northern part of the State all season.

The house mosquito, *C. pipiens*, was nearly absent in Essex

County until August 22, when there was a slight invasion in the northeastern section of Newark. In Hudson County it was the predominating species, as very little work had been done to check the breeding. In Union County *pipiens* was reduced considerably by the continued oiling and filling in of the breeding places and not many individuals were noticed throughout the season.

Anopheles maculipennis was very abundant throughout the State, more so than in previous years, and larvae could be found in the eddies of all brooks, in among the grass along the edges of brooks, and in almost any grassy pool scores of larvae could be found. The most prolific place that was discovered for this species was near White City in Mercer County. The swamps in that section were alive with them.

Anopheles punctipennis was very abundant throughout the State and larvae were found almost anywhere until November. The most prolific place for this species was found near Princeton.

Anopheles crucians was quite rare throughout the entire season and only odd specimens, all in the larvae stage, were noticed and these were found on the saltmarsh along Barnegat Bay.

Psorophora ciliata was apparently rare throughout the season. Few larvae were noticed and not many adults were seen anywhere. The prolific breeding places for this species in Essex County have been eliminated.

Aedes sayi was plentiful in the Great Piece Meadows (Essex County) during the latter part of August. As this is one of the most ferocious species in the State it made life miserable for both man and beast in that region.

Aedes jamaicensis was very rare and no records were made at all.

Aedes cantator was not as abundant in the northern part of the State as in 1911; in the southern portion, however, it was very plentiful and in exceedingly large specimens. The first brood hatched early in May and they held on for nearly six weeks, and no more hatching took place until early in September, when they appeared in association with *sollicitans*.

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It was not the predominant form as in previous years, *sollicitans* outnumbering them ten to one.

Aedes sollicitans made its appearance as the first brood of *cantator* was disappearing, which is the usual habit. This species was very rare in the northern part of the State until September, when a fair-sized brood emerged on the Newark and Elizabeth meadows due to the extremely high tides. In the southern part of the State they were very abundant the biggest part of the season, in fact so ferocious that horses broke their harness to get away from the torturing pest. The natives claimed that mosquitoes were not so bad in twenty years, and that was undoubtedly true.

Aedes taeniorhynchus appeared to be exceedingly rare and only two specimens were taken until the first part of September, when a small brood emerged on the Cheesequake meadows (Middlesex County), this being the only locality from which any have been reported.

Aedes sylvestris appeared in vast swarms through Essex, Hudson and Union Counties in May and June, and these were at first all taken for *cantator* by the local county inspectors until the difference was pointed out.

Aedes triseriatus was found both in Union and Essex Counties, mostly in tree holes; only on one occasion has it been found in rainwater barrels during the past season.

Aedes pretans occurred in great numbers in the early spring in the Great Piece Meadows. After the first hatching trouble began with this species which continued throughout the season.

Aedes dupreei was found abundant in July along the edge of the Great Piece Meadows and was rather troublesome for a period of three weeks, when it disappeared.

Aedes subcantans made its appearance in the Millburn-Short Hill section as usual. A considerable number were taken by the local county inspectors for *cantator*. The breeding places for this species are being eliminated and it will soon become rare in this section.

Aedes abfitchii associates with *subcantans* and was found plentiful in the Millburn-Short Hill section until July.

Aedes canadensis occurred quite generally throughout the

wooded portions of the State, and in some places in exceptionally large numbers, especially so in the western section of Essex and Union Counties.

Culex restuans was not common and only odd specimens were taken near the sewer outlets on the Newark Meadow.

Culex salinarius was very rare all season with the exception of September, when a considerable number were found on one section of the Newark Meadow. This being a more northern species and the breeding places in that section rapidly being eliminated means that this mosquito will soon become rare in New Jersey.

Culex territans was found quite abundant in the fresh water pools and more so in spring water. In the northern section of the State this species will soon disappear, as breeding places there are being eliminated very rapidly since the County Mosquito Extermination Commission got to work.

Wyeomyia smithii was not at all rare wherever the "pitcher plant" grows, in which it breeds, but more so in the vicinity of Tuckerton along the edges of the ponds where this plant grows in abundance.

The Meloidae (Blister-beetles) of North Carolina (Col.).

By FRANKLIN SHERMAN, JR., State Dep't. of Agriculture, Raleigh, N. C.

For the benefit of students of faunistic entomology, and to place on record some notes which seem worthy of publicity, the present paper on the family Meloidae of North Carolina has been prepared. The list shows a total of 21 species on record, as compared with 14 for New Jersey (Smith), 22 for Indiana (Blatchley), and 18 for District of Columbia (Ulke). The family is well known to be one of western and southwestern distribution in the United States. It is quite likely that some additions will be made to this list in future, but it is believed to be reasonably complete.

The genera are arranged alphabetically, and the species alphabetically under the genus.

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EPICAUTA.

E. batesii Horn. Southern Pines, A. H. Manee.

E. cinerea Forst. Taken at several points, Raleigh and Southern Pines westward, June to September inclusive. Has damaged clematis.

E. marginata Fab. More common and widespread than the preceding, of which it is often regarded as a variety. Taken at many points throughout the state, July to September inclusive. Damages egg-plant, potato and clematis, also feeds on tomato and pig-weed (*Amaranthus*).

E. pennsylvanica DeG. Throughout the state, July to October inclusive, abundant on flowers, especially composites, and particularly golden-rod. Our commonest species.

E. strigosa Gyll. Taken at five scattered localities from Greensboro eastward, mid-June to late August. Feeds on the flowers of "wild sweet potato" (*Ipomoea pandurata*). (C. S. Brimley.)

E. trichrus Pall. Eight localities, Raleigh and Southern Pines westward, late June to September 20. Probably occurs in east also. Same food habits as preceding.

E. vittata Fab. With us this seems to be one of the scarcer species. Three localities, all east of mountains, but probably occurs in the mountains also. Raleigh, July; Beaufort (on coast), August; Newton, August and September.

MACROBASIS.

M. unicolor Kirby. Southern Pines, August, September; not uncommon under lupine (A. H. Manee). Also taken at three mountain localities in June and July.

MELOE.

M. americanus Leach. Blantyre (in mountains), early May. The species presumably occurs throughout the mountains at least.

M. angusticollis Say. Mount Mitchell (above 3000 ft.), early October. Presumably occurs throughout the mountains.

M. impressus Kirby. From three widely-separated localities in the middle part of state. January and February. Twice complained of (in February) as a pest on turnips. Specimens of the genus *Meloe* (species undetermined) have been sent to us as feeding on cotton and clover.

NEMOGNATHA.

N. bicolor Lec. Southern Pines (A. H. Manee).

N. cribraria Lec. Raleigh (C. S. Brimley).

N. nemorensis Hentz. Greensboro, early September (S. W. Foster).

N. piezata Fabr. Southern Pines, common (A. H. Manee), Southern Wake County, early July. This is the only species of the genus that we have ever considered common. Found on flowers and believed to feed on pollen and nectar which the prolonged maxillae enable it to reach.

POMPHOPOEA.

P. aenea Say. Raleigh, April, one under maple tree. Ellenboro, late March, 1903, exceedingly abundant on blossoms of peach and plum—later reports stated that when oaks bloomed they left the fruit trees for the oak catkins.

P. polita Say. Southern Pines (A. H. Manee).

P. unguicularis Lec. Blowing Rock (about 4000 ft.). June 8th to 25, 1901—at this place and date this handsome species swarmed in untold thousands on peach, rose and mountain laurel (*Kalmia*). On laurel they ate the blossoms, on peach they ate the leaves, apparently preferring those that were affected with leaf curl disease.

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P. germari Hald. Raleigh (C. S. Brimley).

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T. 4-maculatus Fab. Taken at three localities in the east-central part of state. At times common on the butterfly pea and "wild sweet potato."

ZONITIS.

Z. bilineata Say. Newton, a number taken in August, 1906.

Additions to the New Jersey Tipulidae (Diptera), with the Description of a new Species.*

By M. D. LEONARD, Ithaca, N. Y.

The following species of craneflies have not, as far as I have knowledge, been heretofore recorded from the State. In those cases where no name is mentioned the specimens were taken by the author. My thanks are due to Mr. C. P. Alexander, of Cornell University, and Dr. Frank E. Lutz, of the American Museum of Natural History, the former for looking over this paper and supplying a record, the latter for supplying two records. The text figure was drawn by means of the projection microscope in the Entomological Laboratory of Cornell University.

*Contribution from the Entomological Laboratory of Cornell University.

EPICAUTA.

E. batesii Horn. Southern Pines, A. H. Manee.

E. cinerea Forst. Taken at several points, Raleigh and Southern Pines westward, June to September inclusive. Has damaged clematis.

E. marginata Fab. More common and widespread than the preceding, of which it is often regarded as a variety. Taken at many points throughout the state, July to September inclusive. Damages egg-plant, potato and clematis, also feeds on tomato and pig-weed (*Amaranthus*).

E. pennsylvanica DeG. Throughout the state, July to October inclusive, abundant on flowers, especially composites, and particularly golden-rod. Our commonest species.

E. strigosa Gyll. Taken at five scattered localities from Greensboro eastward, mid-June to late August. Feeds on the flowers of "wild sweet potato" (*Ipomoea pandurata*). (C. S. Brimley.)

E. trichrus Pall. Eight localities, Raleigh and Southern Pines westward, late June to September 20. Probably occurs in east also. Same food habits as preceding.

E. vittata Fab. With us this seems to be one of the scarcer species. Three localities, all east of mountains, but probably occurs in the mountains also. Raleigh, July; Beaufort (on coast), August; Newton, August and September.

MACROBASIS.

M. unicolor Kirby. Southern Pines, August, September; not uncommon under lupine (A. H. Manee). Also taken at three mountain localities in June and July.

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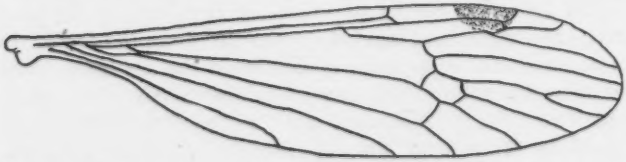
Limnophila albipes n. sp.

Holotype. Head.—Front gray, with dense silvery pubescence except around the upper border of the eyes; antennae nearly twice the length of the head and thorax together; basal segment cylindrical, pale yellow, and twice as long as the second, which is subglobose and yellow; first segment of the flagellum considerably longer than the two segments of the scape combined, cylindrical and dark brown, except for the base, which is yellow; remaining segments dark brown, fusiform, becoming more slender near the tip of the flagellum, clothed with dense whitish pubescence, hairs not verticillate; palpi yellowish gray.

Thorax.—Mesothoracic praescutum brownish yellow, somewhat shining but still covered with a very fine whitish pubescence; median brown line almost obsolete; pleurae yellow; halteres yellowish, knob somewhat infuscated.

Wings.—Hyaline, veins brownish; subcosta ends about the middle of the sector; the radial cross-vein is nearly obsolete but is situated near



the end of R1, which is curved up beyond it to the costa; stigma present just behind it but not very distinct; petiole of cell R2 (first submarginal cell of authors) distinctly longer than the basal deflection of Cu 1 which meets cell 1st M2 (discal cell of authors) at about the middle.

Abdomen.—Dark brown above, paler beneath, pubescent; hypopygium yellow.

Legs.—Coxae yellow; rest of legs brownish yellow except the femur, which is somewhat infuscated at the tip; also the 3rd and 4th segments of the fore and middle tarsi infuscated; segments of the hind tarsi white except the tip of the 5th segment and the claws, which are brownish.

Length of body.—4 mm.; of wing—5.5 mm.

Allotype.—1 female. Same as the male with the following exceptions: Ovipositor yellow; antennae only about as long as head and thorax together.

Paratype.—1 ♀ in which the venter of the abdomen is nearly as dark as the dorsum.

The holotype is C. U. Coll., Lot 392. The allotype and paratype are in the author's collection.

The specimens were collected by the author at Ridgewood, July, 1911.

The antennae of this species have a peculiar twisted appearance similar to those of *L. laricola* Alex., which, however, has no white on the feet. It belongs to the *poetica, niveitarsus* group.

Dolichopeza americana Ndhm., Ridgewood, July 15, 1911.

Besides the above species should be mentioned the capture of a specimen of *Aeshnosoma rivertonensis* Johnson, which is, I believe, the second male ever taken.

Notes on Some North American Noctuidae (Lepid.).

By F. H. Wolley Dod, Midnapore, Alta, Canada.

Pseudanarta dupla Smith (Journ. N. Y. Enc. Soc. xvi. 89, June, 1908.)

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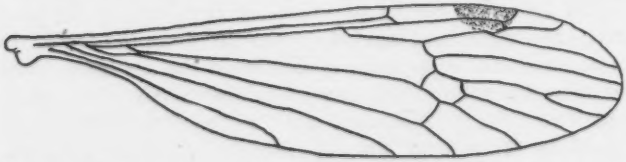

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P. crocea Hy. Edw.

There are two female types from Dallas, Oregon, in the Henry Edwards' collection in the New York Museum. I have a number from Stockton, and have compared one of my females with these types, finding it slightly larger and darker only. Grote referred *crocea* as a pale variety of his *flava,* and Smith went even further and made it a synonym until 1908, when he characterized it as distinct after comparison with the type, though entirely omitting Oregon from the habitat. I did not find the species in the British Museum when I visited it in March, 1909, but another species stood under the name, and is described and figured as *crocea* in the catalogue.

I did not then know that the species was not *crocea,* and left a few specimens of an unknown species with Hampson. This I discovered a year later was the *crocea* of Smith's collection, which I found to be correct by Henry Edwards' types. The specimen figured in Holland's Moth Book, pl. xx. f. 40, as *singula,* is this species. The *flava* of Smith's collection was the *crocea* of Hampson, and of course the one which Smith ought to have described as *dupla* but didn't. I now name this species on the basis of Hampson's description and figure.

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Colorado female in the Henry Edwards' collection, and have a series in my own from Stockton, Provo and Eureka, Utah, from which latter locality I have *flava, crocea* and *singula* also.

Flava has a short black basal streak which *caeca* lacks. In *flava* the t. p. line is not always angulated in submedian fold as stated in Hampson's tables, but is often curved merely. The line in *caeca,* however, is much more even, as is also the terminal line, and the s. t. space is wider. Both have a fine black streak in s. m. fold, joining the t. a. and t. p. lines, and *caeca* is best characterized by having a pale ochreous streak immediately above this, which is the palest mark on the fore wing. The whole of the upper portion of the median space in *caeca* is tinged with ochreous. In *flava* it is reddish brown. In *flava* the geminate t. p. line is whitish filled, the white broadening out into a patch at the angle or bend in the s. m. fold. In *caeca* the filling is concolorous with the rest of the s. m. space, though there is a creamy white patch in the s. m. fold. The black band on secondaries of *caeca* is more even on its inner edge. Both wings beneath are much paler in *caeca* than in *flava;* in fact my Utah *caeca* have no yellow tinge beneath the primaries at all. Both have a conspicuous black discal spot beneath secondaries, and the discal spot beneath primaries referred to by Smith as present in *dupla* but absent from "*flava*" (*caeca* meant), is sometimes present in both. *Caeca* has shorter wings and blunter apices.

Crocea has proportionately broader wings than either, and is a much grayer species, without any distinct reddish or ochreous shades. A short discal streak seems variably present or absent. The t. p. and s. t. lines are more as in *flava* than *caeca.* The discoidal spots are distinctly outlined in grey, which is not the case with the other two species, at least in my series. Hampson says of *caeca* (under *crocea*), "orbicular and reniform .... with whitish annuli," but this is not shown in the figure. There is no blackish streak in submedian fold centrally in *crocea,* but there is a pale grey or creamy white patch across the median space just below the discoidals, and this sometimes extends upwards to obliterate the lower edges

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The above comparisons are made from Utah specimens only, with the addition of a single *crocea* from New Mexico. The three are easily distinct, though some of the characters referred to of course might not hold good in other localities.

Acronycta laetifica Smith.

This was described from a number of specimens from New York, New Jersey, and Florida. Types were stated to be in the collections of the U. S. National Museum, Rutger's College, Cornell University, and Messrs. Graef and Doll. Those in the two former collections I have examined. At Rutger's College was a male co-type from New York, and a female from Florida. At Washington I found the male type from Florida, a female and male co-type without locality label, and another female which my notes say was also marked "type," though possibly really only a co-type, from New York. Smith states after the description that the species with which it is most likely to be confused is *occidentalis.* That is, or was, so far true that I venture to state that the male type in the Washington Museum actually is *occidentalis,* or perhaps I should say, using the prior name, *interrupta.* My notes say: "The male type from Florida is a well marked *interrupta,* creamier than usual, and has the slightly ochreous-tinted reniform of that species. Specimens standing apparently correctly in the *interrupta* series are just like it." All the rest I saw marked

type or co-type appeared to be distinct from any other described species that I know, so that the name will hold after all. Smith wrote furthermore: "The species has been confused with *furcifera*, with which it really has very little in common." To the latter part of this statement I cannot agree, as I think it could easily be mistaken for a pale creamy *furcifera*. Hampson's figure gives a good idea of it, but is really too brown and highly colored. I have a female from Milwaukee Co., Wisconsin, collected by Val. Fernekes, and a male bearing the name of the same collector stood with the series at Washington.

Arsilonche colorada Smith.

This was described in 1900 from two females from Glenwood Springs, Colorado. One of these is in the Washington Museum and has been labeled "type" in Smith's own handwriting. It is not an *Arsilonche* at all, but is identical with Sir George Hampson's type of *Cea cirphidia*, described from two females taken by D'Urban at Santa Barbara, California (Cat. ix. 280, 1910). I have a female specimen taken by Mr. T. Spalding, at Vineyard, Utah, on Sept. 14th, 1909, which I have compared with both types. The species has a rounded frontal prominence, bare of scales, and a divided anterior thoracic crest. Hampson mentions a spreading metathoracic crest also. It certainly exists in my specimen, but is not nearly as prominent as that shown in his woodcut. In the Washington collection I came across three greasy specimens, at least two of them males, labeled Pullman, Washington, Aug. 30th-Sept. 9th, 1898, standing mixed with *Leucania heterodoxa*, to the pale forms of which the species certainly bears some superficial resemblance. That was in February, 1910. My specimen has a small blackish spot at the lower angle of cell. Hampson's specimens also have two similar spots just beyond the angle, and one beyond upper angle. These are not shown in the figure. Smith does not mention them in his description, nor do my notes say that I noticed any in his type. It is to be assumed that the other specimen referred to in his description

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Acronycta laetifica Smith.

This was described from a number of specimens from New York, New Jersey, and Florida. Types were stated to be in the collections of the U. S. National Museum, Rutger's College, Cornell University, and Messrs. Graef and Doll. Those in the two former collections I have examined. At Rutger's College was a male co-type from New York, and a female from Florida. At Washington I found the male type from Florida, a female and male co-type without locality label, and another female which my notes say was also marked "type," though possibly really only a co-type, from New York. Smith states after the description that the species with which it is most likely to be confused is *occidentalis.* That is, or was, so far true that I venture to state that the male type in the Washington Museum actually is *occidentalis,* or perhaps I should say, using the prior name, *interrupta.* My notes say: "The male type from Florida is a well marked *interrupta,* creamier than usual, and has the slightly ochreous-tinted reniform of that species. Specimens standing apparently correctly in the *interrupta* series are just like it." All the rest I saw marked

type or co-type appeared to be distinct from any other described species that I know, so that the name will hold after all. Smith wrote furthermore: "The species has been confused with *furcifera*, with which it really has very little in common." To the latter part of this statement I cannot agree, as I think it could easily be mistaken for a pale creamy *furcifera*. Hampson's figure gives a good idea of it, but is really too brown and highly colored. I have a female from Milwaukee Co., Wisconsin, collected by Val. Fernekes, and a male bearing the name of the same collector stood with the series at Washington.

Arsilonche colorada Smith.

This was described in 1900 from two females from Glenwood Springs, Colorado. One of these is in the Washington Museum and has been labeled "type" in Smith's own handwriting. It is not an *Arsilonche* at all, but is identical with Sir George Hampson's type of *Cea cirphidia*, described from two females taken by D'Urban at Santa Barbara, California (Cat. ix. 280, 1910). I have a female specimen taken by Mr. T. Spalding, at Vineyard, Utah, on Sept. 14th, 1909, which I have compared with both types. The species has a rounded frontal prominence, bare of scales, and a divided anterior thoracic crest. Hampson mentions a spreading metathoracic crest also. It certainly exists in my specimen, but is not nearly as prominent as that shown in his woodcut. In the Washington collection I came across three greasy specimens, at least two of them males, labeled Pullman, Washington, Aug. 30th-Sept. 9th, 1898, standing mixed with *Leucania heterodoxa*, to the pale forms of which the species certainly bears some superficial resemblance. That was in February, 1910. My specimen has a small blackish spot at the lower angle of cell. Hampson's specimens also have two similar spots just beyond the angle, and one beyond upper angle. These are not shown in the figure. Smith does not mention them in his description, nor do my notes say that I noticed any in his type. It is to be assumed that the other specimen referred to in his description

is either a type or co-type, and probably in the Rutger's College collection. If it is there I overlooked it.* There is a possibility that it is not the same species as the type at Washington, though there is nothing in the description to suggest that the two specimens were not exactly alike. Hampson replaces *Arsilonche* Led. by *Simyra* Ochs., and under *colorada* Smith, describes and figures a Denver male which seems an *Arsilonche* all right, very near, or identical with *henrici*, and which is at any rate not a bit like *cirphidia*. The specimen happens to be greasy.

Before referring *cirphidia* to *colorada*, it will perhaps only be fair to wait and see what Smith's other type or co-type turns out to be.

Platisenta albipuncta Smith.

This was described from nine males, eight of them from Harris Co., Texas, and the other from Colorado Springs. Smith sent me Shovel Mt., Tex., specimens nearly ten years ago, and I have a Harris Co. series from Mr. George Frank, who supplied the types. I have no note of the actual type, but have seen a co-type in the British Museum. I have *videns* from Pittsburgh, Pa.; Shelby, Ohio; and Chicago, and have compared a great many more with Texas specimens, and see no reason whatever for keeping them distinct.

Smith says under the description of *albipuncta*: "Like *videns* in appearance, but paler, not so reddish, not so glossy in appearance, and more contrastingly marked." Hampson thus separates them in his tables:

"*Videns.* Fore wing rufous" and "*albipuncta.* Fore wing ochreous, slightly tinged with reddish brown."

The types of *videns* Guen., and *indigens* Walk., are from Florida, and that of *atriciliata* is labeled "U. S. A." These are one species, as treated by Hampson and Smith. Why *albipuncta* should ever have been considered distinct I cannot discover. The differences between a series of each are, at best, hard to find, and I have Shovel Mountain and Pennsylvania specimens absolutely identical.

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Caradrina mantalini Smith.

=*Agrotis nanalis* Grote. (Barnes and McDunnough, Contr. Nat. Hist. Lep. N. Am., Vol. I, No. 4, p. 5, pl. I. f. 12.)

Mantalini was described from "two females," from Colo. (Bruce), and Glenwood Springs, Colo. (Barnes). My notes say that both types are males. Dr. Barnes has the Glenwood Springs type, and the other is in the Washington collection, where are also two females from Nevada Co., Calif., each bearing the museum red "type" label, though they can't be types on the strength of it. Grote's type of *nanalis* is a male from Nevada, though Smith's copy in the Agrotid Bulletin of Grote's description reads female. Messrs. Barnes and McDunnough's reference is perfectly correct, and the synonymy has been known to Sir George Hampson for some time. The species has strongly spined tibiæ, and is not a near relation to *Caradrina miranda* with which Smith associated it. Hampson places *nanalis* in *Lycophotia* Hbn., of which he makes *Peridroma* Hbn., and *Setagrotis* Smith, synonyms.

Caradrina spilomela Walk.

This is not in Smith's list, but stands in Dyar's catalogue as prior to *conviva* Harv., and is figured by Holland. Hampson makes *triplex* Walk., a still prior name, and adds *contraria* H.-S., and *subaquila* Harv. to the synonymy. The types of all except *contraria* are in the British Museum. *Triplex* is a badly worn female from Honduras. I have no note of its color. *Spilomela* is an A1 specimen, a yellowish female from Haiti. *Conviva* is a Texas male, about the color of *extima*, and *subaquila*, also a Texas male, is very dark reddish, and is the "ab 2" of Hampson. It appears to be a very variable species inhabiting the Southern States, Central America, and the West Indies. The synonymy may as well be accepted. Hampson makes it the type of his new genus *Micrathetis*, in which he places only two other species, *dasarada* Druce, from the same general region, though not yet recorded from north of Mexico, and *canifimbria* Walk., from Brazil.

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Caradrina insipida Strecker.

This was described from two Wisconsin specimens. One of them was said to be about the color of *meralis,* and the other more reddish brown. It was stated to be nearest *fragosa* Grote. I saw the types in March, 1910. One is a rubbed male, the other, a merely fair specimen, a female. The species is very doubtfully distinct from *Orthosia inops* Grote, of which Hampson figures the type, also a bit worn, under the genus *Amathes.* I have had a badly worn Calgary male in my collection since 1893, which I identified as perhaps this only after seeing Grote's type. I have also compared with mine, and taken notes on, a male taken at High River, Alta., by Mr. Thomas Baird, which I subsequently saw in Prof. Smith's collection standing under *inops,* with a few from Kittery Point, Maine, the type locality. Smith mentions in his notes in Trans. Am. Ent. Soc. xxxiii, 351, 1907, that there are probably two species confused under *inops,* but that the forms are too rare, and available specimens too poor to make sure of. Closely associated with the *inops* series in his collection, I saw a few specimens from Cohasset, Mass.; East River, Conn.; Winnipeg; and Sable Island. It certainly looked as if there might be two species, so I refrain from referring *insipida* definitely to *inops* at present.

Hadena finitima Guen.

Dyar omits this name from his catalogue, substituting *basilinea* Schiff. Smith takes exception to this in Can. Ent. xxxv. 134, 1903, and claims that they are distinct species, figuring the genitalia of each, and of *cerivana.* He appeared to admit that the latter was a mere variety of *finitima,* and Dr. Dyar follows him in Proc. U. S. N. M. xxvii, 812, 1904. Smith in his 1903 Check List, however, places all three names as distinct North American species. There can be no justification for this, as it has not yet been satisfactorily shown that *basilinea* and *finitima* are really distinct at all. Hampson, in *Trachea,* keeps them separate, differentiating them in his tables by color.

"Fore wing grey, the medial area tinged with rufous; *finitima.*
Fore wing wholly tinged with rufous or red-brown; *basilinea.*"

These color differences are as a rule rather strongly marked, but they sometimes scarcely hold, and I possess North American specimens marked Stonington, Conn., which differ but very slightly from some British specimens in my collection, including some collected by myself in the midlands.

Staudinger places *finitima* (through a misprint spelled *fictima*) as a variety of *basilinea,* and refers *basistriga* Staud. and *cinefacta* Graes. as synonyms of the variety, of which he gives the distribution as North America, Siberia, Japan and Norway.

Cerivana Smith, from Calgary, is a form in which the ground color is paler still, the median space about concolorous in the type specimens, but with a diffused reddish median line. Some have the entire central area more or less reddish, except the spots, as is usual in *finitima,* but the most obvious character is the pale ground. The form occurs in Manitoba and at Kaslo, British Columbia, and from Vancouver Island I have specimens very much like it, as well as others nearer eastern *finitima.* It seems best to list the forms as follows:

Hadena basilinea Schiff. Ground color ochreous, or slightly reddish.
var. *finitima* Guen. Ground color grey, usually with central area red-brown.
var. *cerivana* Smith. Ground color paler grey, typically without central area reddish. [The British variety *cinerascens* Tutt must be something near this.]

I have studied more material since my notes on these forms in Can. Ent. xliii. 230, 1911. Hence the foregoing.

The New President of the Entomological Society of London.

Mr. G. T. Bethune-Baker, whose article on *Everes comyntas* and *amyntula* appeared in the NEWS for March and April last, was elected President of the Entomological Society of London, at its meeting of January 15, 1913. He has been an extensive writer on the Lepidoptera, two of his larger papers being those on "New Noctuidae from British New Guinea" (Novit. Zool. XIII, July, 1906) and "A Revision of the African Species of the Lycaenesthes group of the Lycaenidae." (Trans. Ent. Soc., Lond., July 19, 1910).

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The Medio-anal Link in Agrioninae (Odonata).

By E. B. WILLIAMSON, Bluffton, Indiana.

Venational characters may generally be described in a variety of ways; and the number of ways depends largely on the complexity of relationships of the part or character defined or described. I do not refer to the use of synonyms (as triangle free, triangle uncrossed), but to those characters which for their definition depend on some expressed or implied relationships with other characters or parts. It may be taken for granted that, in describing any part of the wing, that description is best which is clearest, and which places most importance on evolutionary changes of that or related parts. Moreover, it is desirable that all workers should be in harmony in their use of terms and their conception of evolutionary changes. When such harmony exists, uniformity of descriptions will inevitably follow.

The Agrioninae alone remain about as the genius of de Selys, expressed in his classification, left them. His Legion Lestes has properly been given subfamily rank, but on no characters not recognized by him. It is certain that the contents of others of his legions and "grandes genres" will be altered more or less, and also that many of his groupings or divisions under his subgenera will be described as genera. Probably thus more Agrionine genera will be described in the future than all other Odonate genera yet uncharacterized. Moreover, the literature may be expected to be voluminous, and for this reason uniformity in descriptions is desirable and possible.

For venational descriptions the Comstock-Needham system seems most desirable; and Needham in his *Genealogic Study* called attention to the evolutionary changes which have taken place in the veins forming the distal (apical) ends of the quadrangle and subquadrangle. Later I named these two parts in the Calopterygidae the medio-anal link. The medio-anal link may now be defined as the cross vein forming the distal end of the quadrangle and that part of Cu2 opposed to Cu1 and placed transversely to the long axis of the wing.

In the figures accompanying this paper, the medio-anal link is labeled MA at either extremity. Thus in Figs. 5 and 6 MA alone does not form the distal end of the subquadrangle; and in Figs. 8, 9 and 10 MA really does not link M with A, though I believe the use of the term in these three cases will be found desirable. However, this is one of the purposes of this paper, to bring out the opinions of others on what terms and expressions are most desirable in these parts in Agrionine wings. In the ten figures, the first two show Calopterygine wings which, in the relations of MA, show a generalized structure. From this condition two distinct evolutionary lines exist, I believe, in Agrioninae (sens lat.). In one case MA is the center of evolutionary activity, at first little differentiated from the cross-veins which follow it, set at nearly right angles against M4, with Cu2 appearing as a continuation of A. Figures 4, 5 and 6 show a rapid change in these characters, MA and M4 forming first a symmetrical fork and then in Fig. 6 MA appears as a continuation of the basal part of M4, while bracing takes place posterior to MA, and A and Cu2 are no longer in the same line. The other line of evolution is shown in Figs. 7, 8, 9 and 10. Here MA undergoes no changes except those involved in the reduction of the posterior wing area. In Fig. 7, A is continued to MA, and Cu2 beyond MA is present as a short spur. When, as in Figs. 8, 9 and 10, Cu2 is confined to MA, A passes CA (cubital-anal crossvein) to return to the wing margin (Fig. 8), to switch against the quadrangle (Fig. 9), or terminates at CA (Fig. 10), in which last case wing reduction reaches its maximum.

Explanation of Figures.

Figure 1. Typical Calopterygine wing-e.g. *Calopteryx*.

Figure 2. A Calopterygine wing-e.g.—*Diphlebia*, which shows Agrionine affinities in MA as well as in its antenodal characters.

Figure 3. Representatives of such genera of de Selys' legion Platycnemis as *Platyscelus* (*Platycnemis*), *Idiocnemis*, *Tatocnemis*, *Coeliccia* (*Trichocnemis*), *Copera* (*Psilocnemis*), *Allocnemis*, and *Chlorocnemis*, (but not *Calicnemis* or *Leptocnemis* [*Hemicnemis*] in the former of which A and Cu2 are not in the same line but are as in Figure 5, and in the latter of which MA and its parts are as in Figure 5); and in the

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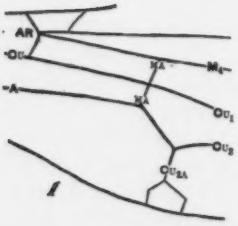

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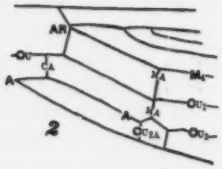

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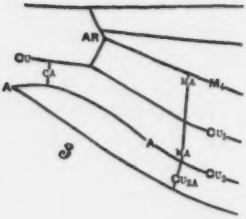

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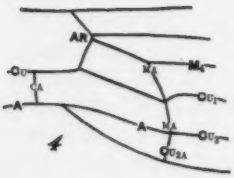

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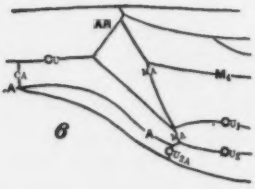

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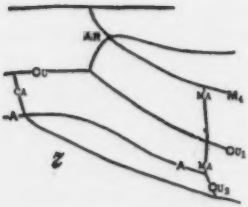

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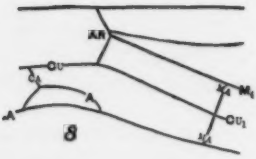

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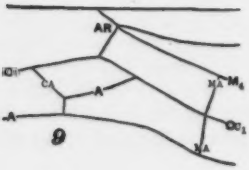

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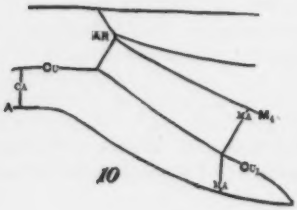

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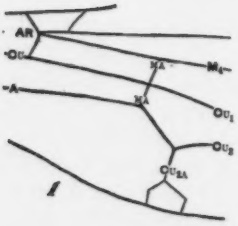

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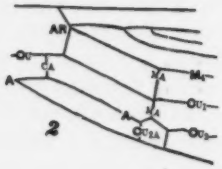

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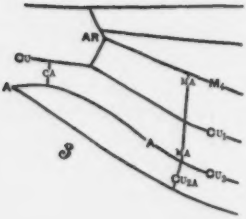

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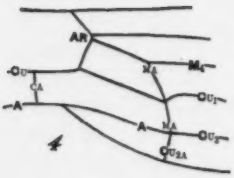

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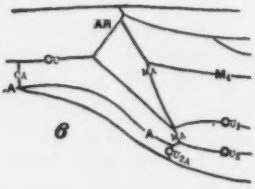

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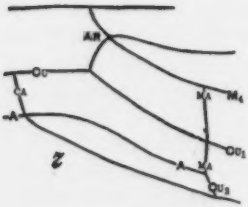

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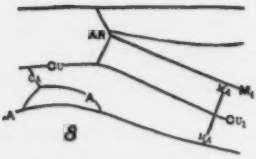

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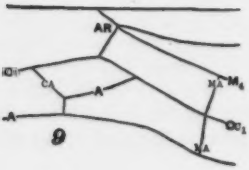

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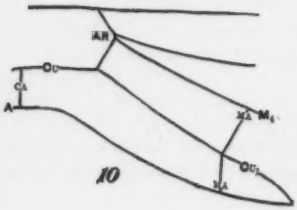

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Mrs. Slosson has also given me the only known fact concerning the life history. To quote her letter: "I found a greenish slug-like larva on oak (species of *Quercus* uncertain) in May, 1904. It was torpid and became a chrysalis almost at once, so I made no detailed description. My specimen is a female and shows the inner white line faintly on discal bands of both wings." This larva was taken at Jacksonville, Florida.

The character of the inner discal white line is an interesting development, so far known only in the female specimens, which occur both with and without it. Whether this is of sufficient value to warrant a varietal name is an open question in my mind. If we may judge from *T. calanus,* the nearest ally to *T. wittfeldii,* the presence or absence of this inner line is subject to the utmost variability and is not now considered of varietal significance in that species.

These new records are of considerable interest as they extend the range of the species by three more definite localities and indicate the season in which to be on the watch for the species.

The original description of *T. wittfeldii* appeared in the Canadian Entomologist, Vol. XV, page 136, and Mr. William H. Edwards mentions only the year of capture, 1883. The types, which are three males and one female, are in the possession of Dr. W. J. Holland in Pittsburgh, and there are specimens from the original catch in the Henry Edwards collection at the American Museum of Natural History in New York City, and in the collection of Dr. Skinner at the Academy of Natural Sciences in Philadelphia. These last specimens are one male and two females taken in June, 1882, by Dr. Wittfeld at Georgiana, on the Indian River, Florida.

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this insect, and I think that collectors in Florida would find it worth their while to keep a sharp lookout for it about the dates mentioned and endeavor to secure more specimens and get some further knowledge of the life history of this striking and so far rare butterfly. The four recorded localities would indicate that the species has a range extending over the northern half of Florida and in all probability its rarity in collections is due to an extremely local occurrence and ignorance of its habits on the part of collectors.

For easy identification, reference may be had to The Butterfly Book, by Dr. Holland, page 241, plate xxix, Figs. 19 and 20, where the upper and under sides are figured. The specimens I have seen show an orange-red dash on the costal edge of the primaries below extending from the base and gradually diminishing to finally disappear about opposite the stigma.

On some North American Hemiptera.

By Dr. E. Bergroth, Turtola, Finland.

Fam. Reduviidae.

In 1872 Stål on good reasons united his genera *Doldina* and *Hygromystes,* but by some inadvertence called the genus in this comprehension *Hygromystes,* although the name *Doldina* is one year older.* As the genus was hitherto known only from Brazil, the two species here described are of geographical interest.

Doldina interjungens n. sp.

Testaceous, rather sparingly clothed with a white pilosity which is much shorter on the upper side and thicker on the apical part of the prosternum and the adjacent part of the head, abdomen piceous-testaceous with the lateral border pale testaceous. Head shorter than pronotum, first antennal joint passing apex of scutellum, second joint a little shorter than head. Pronotum half as long again as the humeral breadth, the posterior lobe very finely and thickly punctured, the longi-

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North Carolina (Roanoke Island, G. P. Engelhardt).

This very distinct species is described from a single specimen in de la Torre Bueno's collection. It is exactly intermediate in structure between the subgenera *Doldina* and *Hygromystes*, agreeing with the former in the unarmed disk of the posterior pronotal lobe, with the latter in the spinous humeral angles.

Doldina praetermissa n. sp.

Testaceous, shortly pilose above, more longly so on the upper side of the head on the first two antennal joints, on the underside of the body, along the abdominal margin, and on the legs, head more or less infuscated on the sides, upper side of postocular part sometimes with two narrow ferruginous vittae behind the ocelli, venter sometimes with a sublateral brown vitta. Head shorter than pronotum, first joint of antennae slightly passing apex of scutellum, second joint as long as postocular part of head and eye together. Pronotum rather more than one-half longer than the width between the humeral angles, anterior lobe smooth, in fresh specimens with some subreticulated pubescent lines, posterior lobe unarmed, finely and thickly rugulosely punctate with five shallow and rather narrow longitudinal furrows, the middle furrow being more distinct. Abdomen with a short spine at the apical angles of the first and second segments. Posterior femora reaching or nearly reaching the base of the sixth ventral segment. Length, ♀ 16-17 mm.

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Allied to *D. lauta* Stål, but it is smaller and the posterior lobe of the pronotum is somewhat differently sculptured with the median furrow narrower and less deep.

Of this species I have seen two specimens; the description is, of course, founded on both, and I must thus refrain from designating only one of them as "type." When an author

founds a species on two or more specimens it is incumbent on him, in describing the species, to examine and take into consideration all these specimens and he has no logical right to designate one specified specimen as type. They are all types and have all the same claim to be considered as such, unless the describer has expressly stated that certain specimens on such and such ground are less typical or that one sex is doubtfully conspecific with the other. If a subsequent author subdivides the species into two or more species, he is at liberty to choose any of the original specimens as types both for the old species and for the new ones, even if the first describer, for commercial or other reasons, has marked only one specimen as type. I have thought it necessary to put in this as an apology for refusing to fix one-specimen types, some of my correspondents having urged me to discriminate between "type" and "cotypes," a discrimination which seems to me to be unscientific and liable to promote careless describing. Cotype can in my opinion be used only as a synonym of type, indicating that a species has been founded on more than one specimen.

Castolus ferox Banks.

Mr. Banks kindly gave me specimens of his *Zelus ferox* from Arizona. It is no *Zelus* at all, but belongs to the genus *Castolus* Stål, being the first species of this genus found north of Mexico.

Fam. HENICOCEPHALIDAE.

Henicocephalus biceps Say.

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the "Complete Writings."* Say's type was from Pennsylvania and his description is pretty good, fully agreeing with my specimens. Hemipterists who for the first time saw a *Henicocephalus* have generally thought they had something quite unknown before them, no less than nine generic names having been bestowed on the genus in addition to one name given to the larva. It is interesting and worth remembering that Say, who described his species five years before Westwood founded the genus *Henicocephalus* and who was little inclined to propose new genera, placed the insect in *Reduvius*, between his *Reduvius acuminatus* (an *Oncerotrachelus*) and his *Reduvius insidiosus* (a *Triphleps*), thus not far from its true position. Although Say failed to recognize a new genus and family in his species he was so impressed with the singular structure of its head that he gave his insect a specific name exactly corresponding to the generic name (*Dicephalus*) under which the genus was redescribed by W. F. Kirby.

Fam. COREIDAE.

Harmostes bruesi n. sp.

Above whitish testaceous, head somewhat darker, pronotum (except apical third and lateral borders), clavus, and interior part of corium pink-colored, underside of body pale greenish testaceous (in the live insect probably pure green). Head finely and thickly punctured with an impressed line reaching from the base of the head to the base of the clypeus and a much shorter linear impression before each ocellus and between the ocellus and the eye, apical process scarcely reaching the middle of the first antennal joint, rostrum reaching the hind coxae, pale testaceous with black tips, antennae reddish testaceous, first joint incrassated, finely granulated, its exterior margin straight, interior margin convex, second and third joints linear, subequal in length, each as long as the head and a little less than twice the length of the first

[*The description of *Reduvius biceps* is included in Le Conte's "Complete Writings of Thomas Say," vol. i, p. 356, where it is found in the reprint of a paper entitled "Descriptions of new species of Heteropterous Hemiptera of North America. New Harmony, Indiana, December, 1831." A footnote by Le Conte states, "This memoir is taken from a reprint by Dr. Asa Fitch, in the Transactions of the New York State Agricultural Society for 1857; I have never seen an original copy of it and can consequently give only the paging of the reprint." Neither the library of the Academy of Natural Sciences of Philadelphia nor that of the American Philosophical Society in the same city possesses a copy of the original edition of 1831.—ED.]

joint, fourth joint narrowly fusiform, a little longer than first. Pronotum densely punctate with a low pale median ridge not quite reaching the apical margin and with four impressions placed in a transverse row before the middle, the interior impressions situated close to the median keel, lateral margins smooth, moderately subangularly sinuate in the middle, humeral angles rectangular, very narrowly rounded, intrahumeral impressions distinct. Scutellum densely punctate with a faint median keel not reaching the apex. Metasternum strongly grooved in the middle. All pleurae densely punctulate. Corium and clavus strongly and rather thickly punctate, costal margins of coria parallel from the base through less than a third their length, then slightly ampliated, membrane hyaline, passing apex of abdomen by half its length. Abdomen beneath strongly sulcated from its base to the apex of the third segment, male genital segment arcuately sinuate at apex with three appendages protruding from the interior, the median one very short, conical, the lateral ones knife-shaped, turning their convex margin inwards, whitish with the apex narrowly infuscated. Legs testaceous, hind femora passing apex of abdomen, their incrassated part tinged with reddish brown, the spines white, the larger ones with the extreme tip blackish. Length, ♂ 6.8 mm., with membrane 8 mm.

Texas (C. T. Brues).

This species cannot be easily mistaken for any other North American species and is also well distinguished from the neotropical forms. In structure it is intermediate between Stål's divisions *a* and *aa*, having non-serrulate pronotal lateral margins, but a deep basal ventral furrow. It possibly comes nearest to *H. bicolor* Dist., but Distant says nothing about the presence or absence of the ventral groove in any of the species described by him.

This insect was among some Texan Hemiptera kindly presented to me by Mr. Brues. The label shows no precise locality, only the date 3-23-00.†

Honors to Entomologists.

Professors John Henry Comstock, of Cornell University, and Clarence E. McClung, of the University of Pennsylvania, and Assistant Surgeon General William C. Gorgas, U. S. A., were elected members of the American Philosophical Society at Philadelphia, on April 19. Professor George H. Parker, of Harvard University, was elected a member of the National Academy of Sciences, at Washington, April 22-24.

[†Mr. Brues has kindly informed us that: "The bug dated 3-23-'00 was from Austin, Texas, I am positive, as I collected there at that date."—Ed.]

the "Complete Writings."* Say's type was from Pennsylvania and his description is pretty good, fully agreeing with my specimens. Hemipterists who for the first time saw a *Henicocephalus* have generally thought they had something quite unknown before them, no less than nine generic names having been bestowed on the genus in addition to one name given to the larva. It is interesting and worth remembering that Say, who described his species five years before Westwood founded the genus *Henicocephalus* and who was little inclined to propose new genera, placed the insect in *Reduvius*, between his *Reduvius acuminatus* (an *Oncerotrachelus*) and his *Reduvius insidiosus* (a *Triphleps*), thus not far from its true position. Although Say failed to recognize a new genus and family in his species he was so impressed with the singular structure of its head that he gave his insect a specific name exactly corresponding to the generic name (*Dicephalus*) under which the genus was redescribed by W. F. Kirby.

Fam. COREIDAE.

Harmostes bruesi n. sp.

Above whitish testaceous, head somewhat darker, pronotum (except apical third and lateral borders), clavus, and interior part of corium pink-colored, underside of body pale greenish testaceous (in the live insect probably pure green). Head finely and thickly punctured with an impressed line reaching from the base of the head to the base of the clypeus and a much shorter linear impression before each ocellus and between the ocellus and the eye, apical process scarcely reaching the middle of the first antennal joint, rostrum reaching the hind coxae, pale testaceous with black tips, antennae reddish testaceous, first joint incrassated, finely granulated, its exterior margin straight, interior margin convex, second and third joints linear, subequal in length, each as long as the head and a little less than twice the length of the first

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New Species of Macrogonus (Coleop.).

By F. C. Bowditch, Boston, Mass.

Two new species of *Macrogonus* should be added to the list, one of which is from New Guinea and the largest yet described; types of both are in my collection.

Macrogonus atripennis nov. sp.

Rufous, head and thorax more or less aenescent the jaws, antennae, except the first joint, the apex of the tibiae, the tarsi and elytra and first four segments of the abdomen blue black.

Head with a broad triangular depression in front, the rear angle continued over the vertex in a well marked groove, surface finely and rather regularly punctured, antennae reaching a little beyond the middle of the body, pubescent (except the scope), 2nd joint short tubular, 3d about one half longer and 4th distinctly longer than the third, 5th, 6th and 7th longest of all; thorax with the lateral middle angle well developed, stout and acute, the four corners angulate, setose, two well marked foveae, one on either side back of the middle, basal depression elongate, well marked, the entire surface shining, sparsely punctulate, rear rounded and faintly margined, elytra parallel, shining, surface everywhere obsoletely wrinkled with about 10 rows of very fine punctures, regularly placed becoming obsolete at the rear and scattered punctures in the intervals, shoulders prominent, each elytron with two deep foveae placed as usual in the genus, subbasal median, and median sublateral; the body below especially the dark part is strongly punctate.

Type—Richmond River, New South Wales, 2 examples; length 10 mm.

Very much resembles in color *Macrolema longicornis* Jac.

Macrogonus aenescens nov. sp.

Head rufous, aeneous, vertex dark metallic green, antennae reaching below the middle of the body, five lower joints purple, remainder dull, submetallic, all except the scope pubescent, thorax rufous, base and middle suffused aeneous bronze, extreme basal edge purple, scutel rufous iridescent, elytra polished, shining, bronzed, extreme thickened edge touched with purple, body beneath and femora rufous, with extreme tip of latter and tibiae and tarsi dark submetallic purplish. Length 15 mm.

Head has the labrum slightly darkened and with a broad triangular depression on the front between the eyes (as in *submetallicus* Jac.) and a deep elongate fovea on the vertex, punctures thick near and between the eyes, becoming sparse at the top and rear of the vertex.

Thorax with scattered foveate and finer punctures crowded at the sides behind and a deep fovea on each side and a well-marked basal depression, also a faint double depression anteriorly, the sides at the middle show a broad very stout upcurved, obtuse tooth and all four corners well developed angles, the rear setose; a glance of green shows here and there on the aeneous part of the thorax. Elytra slightly compressed at the middle, parallel, bright metallic, bronze, with 2 foveate depressions on each side, a subbasal, antemedian and a sublateral, median; impressed with large punctures arranged in nearly regular rows up to and including the fifth, after which they are broken and confused about the middle, the confusion coinciding with the two foveate depressions. The rufous inside shows here and there faint touches of greenish color.

Type—Maroka, British New Guinea, 3500 ft. X, '95 (Anthony), 1 example.

This is the first of the genus to be recorded from New Guinea, the others coming from Queensland.

M. submetallicus Jac. (types in my coll.) shows thoracic angles before and behind as above described, though not as large, and the elytra show similar depressions, though not as deep, and the elytral punctuation is very much less marked in *submetallicus* than in *aenescens*.

Synoptical Table of the North American Species of the Dipterous Genus Sympycnus, with the description of a new Species.

By M. C. Van Duzee, Buffalo, New York.

Two species of *Sympycnus* came to me determined as *Neurigona* while I was working up that genus; one I am describing below as *S. clavatus*, and the other was our common eastern form *S. lineatus* Loew. The following characters separate *Sympycnus* from related genera.

Eyes of the male contiguous below the antennae or nearly so; first joint of the antennae without hairs above, and the second joint without a thumb-like projection along the inner side of the third joint. Abdomen of the male with six visible segments besides the hypopygium; hypopygium short, not extending forward under the venter, and with small append-

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Head with a broad triangular depression in front, the rear angle continued over the vertex in a well marked groove, surface finely and rather regularly punctured, antennae reaching a little beyond the middle of the body, pubescent (except the scope), 2nd joint short tubular, 3d about one half longer and 4th distinctly longer than the third, 5th, 6th and 7th longest of all; thorax with the lateral middle angle well developed, stout and acute, the four corners angulate, setose, two well marked foveae, one on either side back of the middle, basal depression elongate, well marked, the entire surface shining, sparsely punctulate, rear rounded and faintly margined, elytra parallel, shining, surface everywhere obsoletely wrinkled with about 10 rows of very fine punctures, regularly placed becoming obsolete at the rear and scattered punctures in the intervals, shoulders prominent, each elytron with two deep foveae placed as usual in the genus, subbasal median, and median sublateral; the body below especially the dark part is strongly punctate.

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ages (in several species the appendages are not visible). First joint of hind tarsus of the male longer than the second; hind tarsi shorter than their tibiae, and the first joint without large bristles above. Wings with the second vein almost straight; third and fourth veins slightly convergent; fourth vein ending in or before the apex of the wing. Dorsum of the thorax convex on the posterior end, without a flattened space before the scutellum. (This last character must be used with caution as there is a slight concavity before the scutellum, at least in some species, which leads to placing species of this genus in *Neurigona,* from which they are easily separated by the six-segmented abdomen.)

In all the species I have seen the hind tibiae are more or less enlarged at the tip.

Table of Males.

1 Hypopygium large, making up nearly half the length of the abdomen. Antennae yellow, third joint black. Thorax dark green above. (Grenada.).....*frater* Ald.

Hypopygium smaller 2

2 Hypopygium very asymmetrical..... 3

Hypopygium symmetrical 5

3 Antennae yellow; first joint of fore tarsi with three or four minute but stout black bristles below. (Mexico.).*coxalis* Ald.

Antennae black; fifth joint of fore tarsi with a projection below (St. Vincent.) 4

4 Fore tibiae with a row of stubby bristles.....*similis* Ald.

Fore tibiae without a row of stubby bristles.....*falco* Ald.

5 Fourth vein ending in the tip of the wing..... 7

Fourth vein ending before the tip of the wing..... 6

Antennae black; first joint of hind tarsi longer than the second,

6 Antennae with the first two joints yellow, third joint blackish; first joint of hind tarsi a little shorter than the second, and the third a little shorter than the fourth. (Sitka.)

tertianus Loew.

Antennae black; first joint of hind tarsi longer than the second, and the third longer than the fourth. (Wyoming.)

marcidus Wheeler

7 Pulvilli of fore tarsi not enlarged; first joint of hind tarsi shorter than the second, at least in *lineatus*..... 8

Pulvilli of fore tarsi enlarged; first and second joints of hind tarsi nearly equal, or the first longest..... 9

8 Dorsum of the thorax bluish-green, without distinct vittae; front purple in the middle. (Mexico.).....*angustipennis* Ald.
Dorsum brownish with dark vittae; front black or greenish black; hypopygium with long appendages. (Eastern species.) *lineatus* Loew.

9 Fourth and fifth joints of middle tarsi dilated and fringed with black bristles; second joint of hind tarsi with a few long bristles on its upper surface near the tip. (Washington.) *pugil* Wheeler
Middle tarsi plain; second joint of hind tarsi without long bristles 10

10 Hind tibiae with a wide black band at tip; hind metatarsi with basal half whitish, apical half black, and longer than the second joint; hypopygium with distinct appendages. (New Mexico.) .....*clavatus*, n. sp.
Tips of hind tibiae and all of hind tarsi black; first and second joints of hind tarsi nearly equal; hypopygium without distinct appendages 11

11 Dorsum of the thorax gray, with the bristles arising from brown spots and with a brown line down the middle; bases of the abdominal segments purplish bronze; fore femora all yellow. (Mexico.) .....*veripes* Ald.
Dorsum dark blackish green; bases of the abdominal segments cupreous; basal half or more of fore femora black. (California.) .....*cuprinus* Wheeler

Sympycnus clavatus n. sp.

Male:—Length 2.5 mm. Eyes contiguous on the face, leaving only a small triangle below the antennae, which is greenish-black and covered with white pollen; palpi small, with silvery-white pollen; front and occiput greenish-black, with white pollen; two basal joints of the antennae yellow, third joint with a blunt point, brown; arista brown; cilia of the lower orbit white, a few of the upper cilia black. Dorsum of the thorax dark, rather dull green, scutellum and metanotum concolorous, pleurae more blackish; all rather thickly covered with white pollen; humeri and a spot at the insertion of the wings yellowish; halteres yellow. Abdomen yellow, the first segment infuscated, second and third with poorly defined black bands at the incisures which are more or less connected along the center of the dorsum, fourth except at the base, and the fifth and sixth altogether greenish-black; hypopygium of the same blackish color, and with distinct appendages (Fig. 1); venter yellow; hairs of the abdomen including the long bristles on the posterior margin of the first segment yellow. Fore and middle tarsi with the two last joints blackened; pulvilli of fore pair slightly enlarged. Legs and coxae pale yellow; hairs and bristles of fore and

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middle coxae whitish; the long bristle on the outer surface of the hind coxae yellow, or yellowish-brown in some lights; tops of hind femora brownish; hind tibiae incrassated towards the tip, tips with a

FIG. 1. FIG. 2.
1, Hypopygium and 2, Wing, *Sympycnus clavatus* n. sp.

sharply-defined black band which is as wide as the second tarsal joint is long; hind tarsi scarcely half as long as their tibiae, black with the basal half of the first joint whitish, first joint longer than the second, the following joints regularly decreasing in length; fore and middle tarsi about the same length as their tibiae, and with the last two joints infuscated; fore metatarsi about one-half as long as their tibiae; middle metatarsi about one-third the length of their tibiae. Wings grayish hyaline, narrowed at base, and with the anal angle nearly obsolete (Fig. 2), last section of fourth vein nearly straight, and only slightly approaching the third towards the tip, ending in the apex of the wing.

Female.—One female that agrees with these males in the coloration of the legs and antennae in having white hairs and bristles on the fore and middle coxae, and a yellow bristle on the hind coxae, I am placing as the female of this species. The dorsum of the thorax is brown covered with gray pollen, leaving five vittae, the central one being the most sharply defined and the outer pair the most poorly defined. The abdomen is altogether brown except the venter which is yellowish. Wings with the anal angle more prominent than in the male, and more tinged with brown; the fourth vein ends in the tip of the wing. Length 3.5 mm.

Described from two males and one female from New Mexico. The males are in the collection of the American Entomological Society, and were taken at Alamogorda, N. M., in May. The female is in the National Museum and was taken at Las Vegas, N. M., on August 9th. Am. Ent. Soc. Type No. 5259.

Note.—The female of this species has the prescutellar depression very distinct, in the male it is not so conspicuous.

This species is easily separated from all others of the genus by the coloration of the hind feet.

A New Noctuid (Lepid.).

By the late JOHN B. SMITH, Sc.D.*

Mamestra gertana n. sp.

Dull ashen gray without marked contrasts. Head a little darker in front; collar with a distinct black median line; disc of patagia paler gray, the borders more or less margined with black. Primaries with all the markings fairly well-defined, but none of them contrasting or sharply outlined. Basal line geminate, black, broken, incurved toward base on the median vein. T. a. line geminate, well removed from base, outwardly oblique and a little outcurved. Outer portion of line usually best marked and a little outcurved on the interspaces; inner line narrower and less well-defined, tending to become lost. T. p. line geminate, blackish, with a moderate outcurve over the cell and a deep incurve below, greatly narrowing the median space; but this varies in the specimens. The inner portion of line is usually continuous and a little marked on the veins; the outer portion tends to become punctiform and to become marked on the veins by white dots set in a black streak. S. t. line narrow, irregular, pale, often marked only by the difference in shade between terminal and s. t. spaces; sometimes a little outwardly edged with black or marked with yellowish scales, while usually there is a little yellowish preceding mark opposite anal angle and a blackish streak beyond that to outer margin. A series of distinct black terminal lunules at the base of the long and slightly waved fringes. Usually the median space is the darkest and the s. t. space the palest portion of the wing, but in many cases the median area is only a little darker and the rest of the wing uniform in tint. Claviform broad, concolorous, outlined in black, extending

* EDITOR ENTOMOLOGICAL NEWS:

Shortly after Dr. Smith's death I found the enclosed description of *Mamestra gertana*, n. sp., in his desk, which he had written during the summer of 1911, and was no doubt holding it until he had described some other specimens. Dr. Smith's illness, of course, prevented him from doing any systematic work, although he was able to attend to routine and office work until a few days before his death.

I did not send the description to you immediately as I feared that Dr. Barnes, who had described a great many new species, might in the meantime have described this same species. Dr. Barnes was here recently to look over the collections and he assured me that he had not described anything like this species, and that I should send the description to you for publication.

Very truly yours,

AUGUSTA MESKE.

New Brunswick, N. Jersey, March 11, 1913.

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FIG. 1. FIG. 2.
1, Hypopygium and 2, Wing, *Sympycnus clavatus* n. sp.

sharply-defined black band which is as wide as the second tarsal joint is long; hind tarsi scarcely half as long as their tibiae, black with the basal half of the first joint whitish, first joint longer than the second, the following joints regularly decreasing in length; fore and middle tarsi about the same length as their tibiae, and with the last two joints infuscated; fore metatarsi about one-half as long as their tibiae; middle metatarsi about one-third the length of their tibiae. Wings grayish hyaline, narrowed at base, and with the anal angle nearly obsolete (Fig. 2), last section of fourth vein nearly straight, and only slightly approaching the third towards the tip, ending in the apex of the wing.

Female.—One female that agrees with these males in the coloration of the legs and antennae in having white hairs and bristles on the fore and middle coxae, and a yellow bristle on the hind coxae, I am placing as the female of this species. The dorsum of the thorax is brown covered with gray pollen, leaving five vittae, the central one being the most sharply defined and the outer pair the most poorly defined. The abdomen is altogether brown except the venter which is yellowish. Wings with the anal angle more prominent than in the male, and more tinged with brown; the fourth vein ends in the tip of the wing. Length 3.5 mm.

Described from two males and one female from New Mexico. The males are in the collection of the American Entomological Society, and were taken at Alamogorda, N. M., in May. The female is in the National Museum and was taken at Las Vegas, N. M., on August 9th. Am. Ent. Soc. Type No. 5259.

Note.—The female of this species has the prescutellar depression very distinct, in the male it is not so conspicuous.

This species is easily separated from all others of the genus by the coloration of the hind feet.

A New Noctuid (Lepid.).

By the late JOHN B. SMITH, Sc.D.*

Mamestra gertana n. sp.

Dull ashen gray without marked contrasts. Head a little darker in front; collar with a distinct black median line; disc of patagia paler gray, the borders more or less margined with black. Primaries with all the markings fairly well-defined, but none of them contrasting or sharply outlined. Basal line geminate, black, broken, incurved toward base on the median vein. T. a. line geminate, well removed from base, outwardly oblique and a little outcurved. Outer portion of line usually best marked and a little outcurved on the interspaces; inner line narrower and less well-defined, tending to become lost. T. p. line geminate, blackish, with a moderate outcurve over the cell and a deep incurve below, greatly narrowing the median space; but this varies in the specimens. The inner portion of line is usually continuous and a little marked on the veins; the outer portion tends to become punctiform and to become marked on the veins by white dots set in a black streak. S. t. line narrow, irregular, pale, often marked only by the difference in shade between terminal and s. t. spaces; sometimes a little outwardly edged with black or marked with yellowish scales, while usually there is a little yellowish preceding mark opposite anal angle and a blackish streak beyond that to outer margin. A series of distinct black terminal lunules at the base of the long and slightly waved fringes. Usually the median space is the darkest and the s. t. space the palest portion of the wing, but in many cases the median area is only a little darker and the rest of the wing uniform in tint. Claviform broad, concolorous, outlined in black, extending

* EDITOR ENTOMOLOGICAL NEWS:

Shortly after Dr. Smith's death I found the enclosed description of *Mamestra gertana*, n. sp., in his desk, which he had written during the summer of 1911, and was no doubt holding it until he had described some other specimens. Dr. Smith's illness, of course, prevented him from doing any systematic work, although he was able to attend to routine and office work until a few days before his death.

I did not send the description to you immediately as I feared that Dr. Barnes, who had described a great many new species, might in the meantime have described this same species. Dr. Barnes was here recently to look over the collections and he assured me that he had not described anything like this species, and that I should send the description to you for publication.

Very truly yours,

AUGUSTA MESKE.

New Brunswick, N. Jersey, March 11, 1913.

across the median space or connected with the t. p. line by a short spur. Orbicular large, oval, oblique, gray with a dusky central shade, fairly well defined. Reniform upright, rather long kidney-shaped, gray, with a narrow dusky center, margins fairly well defined. Secondaries smoky blackish in both sexes. Beneath, dull smoky brown, secondaries paler and more powdery, both wings with more or less obvious extra-median lines and discal dots.

Expands 1.00-1.15 inches (25-29 mm.)

Habitat—San Diego, California, in March.

Thirty-three males and seven females are at hand for comparison, received through Mr. H. H. Brehme. The species runs toward the smaller size, the largest example representing a single female conspicuous in the series. As a whole the species resembles an undersized *cuneata* with the contrasts out and the maculation slightly modified. Six of the specimens before me have no trace of yellow scales on the s. t. line, and in most of the others there are only a few opposite the anal angle. For comparison I have over 20 examples of *cuneata*, ranging from San Francisco, California, northward into British Columbia and eastward into the Mountains of Colorado.

The antennae of male are barely ciliate, and the dorsal tuftings on abdomen are complete.

The Genus Parodinia Coquillett (Geomyzidae, Dipt.).

By J. R. Malloch, Bureau of Entomology, U. S. Department of Agriculture.*

In the course of some work I have in hand, revising the species in Agromyzidae, I found specimens of this genus standing under the specific names *cinerea* Coquillett, and *costalis* Coquillett, amongst the Milichinae. It was at once quite evident that they did not belong there and were just as evidently true Geomyzidae. I should have transferred them to their proper place without further remark, but for the fact that the specimens standing as *costalis* represent two distinct species, the description of one of which is here given.

* Published by permission of Chief of Bureau.

The genus *Parodinia* is closely allied to *Zagonia* Coquillett, and possibly could be ranked as synonymous with it, but with our very limited knowledge of this family I do not consider it advisable to sink the latter at present. The only difference between them lies in the much higher cheeks of *Zagonia*, which has the height of cheek at least equal to that of eye, whereas *Parodinia* has the eye very distinctly higher than the height of cheek. In Agromyzinae I do not consider this character as of more than specific value, but I apprehend no disadvantages from the retention of the genus *Zagonia*.

PARODINIA Coquillett.

Syn.—*Parodinia* Coquillett, Jour. N. Y. Ent. Soc., Vol. 10, 1902, p. 186.

Generic characters: Two pairs of backwardly directed fronto-orbital bristles; post-vertical bristles cruciate; vibrissae distinctly differentiated; proboscis and palpi normal; mesopleura with at least one strong bristle; two sternopleural bristles; five pairs of dorso-centrals on mesonotum; scutellum four-bristled; tibiae with preapical bristle present; wings with subcostal vein indistinct but complete, the costa with distinct short spines, in addition to the usual hairs, and the posterior cross vein at distinctly beyond middle of wing.

Synopsis of Species.

1 Cheeks at least half as high as eye; fore femur yellow ....*cinerea* Coquillett
Cheeks much less than half as high as eye; fore femur blackened 2
2 Wings browned, most distinctly so along costa....*costalis* Coquillett
Wings clear.....*claripennis*, new species

Parodinia cinerea Coquillett.

Syn.: *Parodinia cinerea* Coquillett, Jour. N. Y. Ent. Soc., Vol. 10, 1902, p. 186.

This species may be known from its allies by the black third antennal joint, the cheeks being about half as high as eye, and the legs being entirely yellow, except the tarsi, which are browned. This species, which is the type of the genus, was described by Coquillett from three specimens, taken by himself, at Los Angeles, California.

across the median space or connected with the t. p. line by a short spur. Orbicular large, oval, oblique, gray with a dusky central shade, fairly well defined. Reniform upright, rather long kidney-shaped, gray, with a narrow dusky center, margins fairly well defined. Secondaries smoky blackish in both sexes. Beneath, dull smoky brown, secondaries paler and more powdery, both wings with more or less obvious extra-median lines and discal dots.

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Syn.: *Rhicnoessa costalis* Coquillett, Proc. Wash. Acad. Sci., Vol. 3. 1901, p. 378.

Originally described from Galapagos Islands, and afterwards recorded from Arizona by Coquillett (Jour. N. Y. Ent. Soc., Vol. 10, 1902, p. 187), which record refers to the specimens described below. To Coquillett's original description of *costalis* it is necessary to add that there are five, not four, pairs of dorso-central bristles. There is only one specimen in the National Museum collection, which is not in very good condition.

Parodinia claripennis new species.

Male.—Opaque gray; anterior half of frons, antennae, except upper surface of third joint, face, cheeks, proboscis and palpi, legs, except fore femora, and halteres yellow.

Bristling of frons normal; antennae of moderate size, third joint distinctly longer than broad; arista thickened at base, almost bare; cheeks about one-sixth as high as eye, marginal bristles of moderate strength, vibrissa differentiated. Mesonotum with two rather faint yellowish stripes close to, and between, the rows of dorso-centrals; about four irregular rows of discal setulae between dorso-centrals; the pair of bristles between the posterior pair of dorso-centrals distinct; pleurae shining on lower portions, and with yellowish pollinosity on upper half. Abdomen slightly shining; all segments with sparse setulae on the surfaces and stronger post-marginal bristles. Legs with fore femora blackened or browned, and sometimes the apices of fore tibiae darkened also; fore femora with 4 to 5 distinct bristles on apical half of postero-dorsal and postero-ventral surfaces; mid and hind femora not so distinctly bristled; all tibiae with distinct preapical bristle. Wings clear; veins brownish yellow; second vein slightly undulating; veins 2-3 very distinctly divergent at apices, 3-4 distinctly though slightly convergent. Length, 2-2½ mm.

Female similar in color, etc., to male.

Type: Cat. No. 15,557, U. S. N. M. Locality: Williams, Arizona (H. S. Barber).

Paratypes: Williams, Bright Angel, and Flagstaff, Arizona, same collector; eight specimens.

This species differs from *costalis* Coquillett, in having the wings clear, the arista almost bare, and in being larger, as well as in its much paler color. It is unfortunate that the type of *costalis* is in such poor condition that the position of the bristles cannot be definitely ascertained.

ENTOMOLOGICAL NEWS.

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PHILADELPHIA, PA., JUNE, 1913.

COLOR NOMENCLATURE.

One of the crying needs of descriptive entomological, and in fact, of all zoological, work has been that of a standardization of colors—the necessity for a uniform set of terms having a fixed chromatic value which could form a basis for color descriptions and comparisons. This need has been so imperative with the working ornithologists that one of the leading members of that body of scientific men, fully realizing the necessity, for years has made a special study of the subject, publishing over twenty-six years ago a Nomenclature of Colors, and now after "a thorough study of the subject from every standpoint" has presented to us a monumental set of standards of colors and color names.* The importance of this work cannot be overestimated to the entomological student who has to deal with the fine definition of color tones, as in the differentiation of closely related forms of groups in which

* Color Standards and Color Nomenclature. By Robert Ridgway, Curator of the Division of Birds, United States National Museum. With Fifty-three Colored Plates and Eleven Hundred and Fifteen Named Colors. Washington, D. C. 1912. Published by the Author. (Price, $8.00.)

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The method of treatment is thoroughly scientific and the values are obtained by mathematically determined mixtures. The thirty-six principal hues are based on the solar spectrum, each hue being graded in a vertical scale with fixed proportions of white and black. The same set of color tones are repeated with increasing admixtures of neutral gray, first with thirty-two per cent., second with fifty-eight per cent., third with seventy-seven per cent., and fourth with ninety per cent. By a very simple method of notation it is very easy to follow a single hue and its numerous tones through all the steps from purity to greatest paleness on the one hand and to the point of greatest divergence in neutralization on the other. This is a very important matter to the student who is dealing with recessive and intensive color patterns, the exact tone of which is far harder to express than the form of the pattern itself, in fact practically impossible to definitely express without a system similar to that employed by Mr. Ridgway.

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Entomologists can rejoice with their ornithological brethren in the appearance of this noteworthy and epoch-making work, which is a monument to the industry and persistence of the author. The utilization of these color terms will simplify the perplexities of modern color descriptions and once used the value of the "Standards" will be fully recognized.

J. A. G. R.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

Cystineura Amymone (Lepid.).

This little butterfly, one of seven species inhabiting Central and South America, has a wider northern range than any of the others. It is one of our rare species, but can be found by the careful collector almost any season. In October, 1905, while collecting in what is now Ponotoc county, Oklahoma, I saw an unfamiliar butterfly, and succeeded in capturing it. It was a specimen of the species *Cystineura amymone*. At the time, I thought it was a straggler that had been driven north by some storm and stranded here as frequently happens to some of our southern species. But while collecting in the western part of the state in the summer of 1907, I found quite a large colony of them near Cordell, Washita county. I took specimens over a range of about eight or ten miles in extent. They were permanently located and were breeding. Again in the autumn of 1911, I saw a specimen near Blackwell, Oklahoma.

This little butterfly is a weak flyer and is always found in places protected from strong winds, such as open wooded tracts, streams, orchards and groves.—Ed. L. Reed, B. A., Oklahoma State Baptist College, Blackwell, Okla.

Entomological Literature.

COMPILED BY E. T. CRESSON, JR., AND J. A. G. REHN.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species, will be recorded. The numbers in **Heavy-Faced Type** refer to the journals, as numbered in the following list, in which the papers are published, and are all dated the current year unless otherwise noted, always excepting those appearing in the January and February issues, which are generally dated the year previous.

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of which he says that Mr. Verrall uses the term for that portion of the second vein between its origin and the origin of the third vein, but that in the present work the term is used in Osten Sacken's sense, who, he says, applies it to the whole of the second vein as far as the fork, which is beyond the origin of the third vein. In fact, Verrall uses the term in exactly Osten Sacken's sense, viz.: "the portion of the second vein between its origin and the emission of the third longitudinal vein." The portion beyond, to the fork, Osten Sacken terms the "petiole of the first submarginal cell." In the preface the author explains his use and understanding of the term "cotype." It is to be regretted that he used this term at all for his species, but as he explains his meaning of the term, there need be no misunderstanding. He is wrongly under the impression that his term "neotype" had never been proposed before, but he fortunately uses it in practically the same sense as originally proposed by Cossman.* The insertion of text figures illustrating the principal characters of the species described, is an excellent feature, as it is in any work, but could be used less sparingly here to good advantage, although the work is fairly well accompanied with good plates. In his treatment of some of the nomenclatorial situations, he has shown some of his independence and conservativeness, and will no doubt be criticized in this respect by some of his colleagues. On the whole, I think the style of the work is excellent, and I trust the subsequent issues, treating of Diptera, will be of like character.—E. T. Cresson, Jr.

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Doings of Societies.

ENTOMOLOGICAL SECTION, ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

Meeting of January 23rd, 1913. Mr. Philip Laurent, Director, presided. Seven persons were present.

Dr. Calvert described a collecting trip he had made with Mr. K. J. Morton, at Loch Rannoch, in the Highlands of

Scotland, last July, in search of *Somatochlora arctica*. Two specimens were seen and one captured. Some Tabanids, a crane fly and a species of *Anthomyia* were also taken; the latter was very annoying. The specimens were presented to the Section. He also donated two specimens of an undetermined Lampyrid larva from Pennsylvania.

Mr. Hornig reported finding many larvae of an *Anthrenus* among the egg masses of the Tussock moth. Dr. Calvert referred to the many moultings of *Trogoderma tarsale*. Mr. Liebeck mentioned putting some larvae of *Anthrenus* in an empty cartridge shell which was then tightly closed. A long time after, upon opening it, he found nothing but shed larval skins.

Dr. Calvert reported having reared a lot of *Culex* larvae and they disclosed about equal numbers as to sex.

Dr. Skinner compared the State of New Jersey with that of Pennsylvania in regard to the distribution of butterflies and said there was a number of species found in New Jersey that were either absent from Pennsylvania or more or less rare. The following species illustrate this: *Phyciodes nycteis, batesi, Junonia coenia, Debia portlandia, Libythea bachmani, Thecla halesus, m-album, favonius, liparops, damon, augustus, irus, niphon, Chrysophanus epixanthe, Callidryas eubule, Terias nicippe, Pamphila, sassacus, metea, attalus, mystic, accius, maculata, ocola, panoquin, aaroni, hianna, dion, bimacula, vitellius, viator, Amblyscirtes vialis, Thanaos petronius.*

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Mr. Kotinsky said he left Hawaii over three years ago and remarked that in some particulars the islands put him in mind of our own country. He described the mountain ranges and said the lowlands were totally devoid of native fauna and flora, the animals and plants now being of foreign origin. He referred to the hilo grass as being very destructive to other plant life. Insect life is abundant but species are not numerous, *Pyrameis tammeamea* being the most brilliantly colored

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